

END RESULTS FOLLOWING OPERATIONS FOR CARCINOMA OF THE BREAST.*

BY NATHAN JACOBSON, M.D.,

OF SYRACUSE, NEW YORK,

Professor of Surgery in Syracuse University, Surgeon to St. Joseph's Hospital.

IN discussing the results to be obtained from operation upon carcinoma of the breast there are various factors to be carefully weighed. Considering these in their natural order we should first be concerned with the period of duration of the disease and the rapidity of its progress, next with the extent of involvement of the various structures and the character of the carcinoma and finally with the radical nature of the operation performed for its removal.

It is not always possible to determine the period of duration of the disease. Inasmuch as in its early stages carcinoma is entirely devoid of pain, it is frequently a matter of accident that the tumor is discovered. In one of my cases the patient dreamed that she had a tumor of the breast and the next morning on awakening was startled to find on placing her hand upon the gland that a tumor was present.

The rapidity with which the disease progresses is of paramount importance. I think that it will be conceded without dispute that there is as much difference in the virulence of cases of carcinoma as there is in acute infectious fevers. In some instances of the latter, the fever will progress so mildly as to scarcely disturb the patient, while in other instances it will overwhelm the individual with such fury as to be fatal within twenty-four hours. Acute cases can be of scirrhus as well as medullary character.

October 9, 1901, a woman forty-one years of age, the mother of two children both of whom she had nursed and never having

* Read at the meeting of the American Surgical Association May 8, 1907.

had any disturbance of the breasts because of lactation, presented herself for examination. Ten days before she had discovered a hardness in the right mammary gland. I found a tumor the size of a hen's egg in the right breast, occupying the outer upper quadrant; freely moveable and non-adherent. In the axilla there were many glandular masses which were hard and somewhat fixed to the skin. It did not seem possible that this condition could have been of but ten days' duration. At the operation not only the skin covering the mammary gland but that of the axilla was freely removed as well as the axillary contents and both pectoral muscles. The axillary mass was found to be larger than the primary growth. She made a rather slow recovery inasmuch as it was impossible to cover the entire surface at the operation and some of the healing therefore was by granulation. A recurrence in the axilla was discovered January 17, 1902. This was removed five days later by operation. Union this time was by first intention. February 7, 1902, that is a little more than two weeks after her second operation, she began to suffer from pains in the abdomen, chest and back. Early in March twitching occurred in both lower extremities. On March 11 there was complete paralysis of sensation and motion below the level of the seventh dorsal vertebra. The patient died April 23, 1902, within six months of the first evidence of the disease. Microscopic examination of the tumor showed it to be a scirrhus carcinoma.

Another equally virulent scirrhus cancer occurred in a woman fifty-two years of age, operated upon November 18, 1899. She had known of the presence of the growth but two days and yet upon examination the entire gland was found to be implicated, the skin adherent, the nipple retracted, and the corresponding axillary glands palpable. A very wide excision of all of the diseased area including the skin, mammary gland, pectoral muscles and the axillary contents was performed. The patient made a rapid recovery, the wound healing by first intention. She left the hospital on the sixteenth day after operation in good general condition. Three months later there was not only recurrence in the scar at the junction of the middle and lower third but over the entire chest and on the back small shot-like nodules were to be felt as well as nodes in the supraclavicular spaces. Similar nodules appeared in various parts of the body, rapidly increased

in size as well as number; the cachexia grew profound and the patient succumbed to the disease in August, 1900.

In this class of cases it matters little what operation is selected or how early it may be performed, the evident virulence of the infection renders a permanent cure impossible. As far as I am aware there is nothing which either the surgeon or the pathologist can discover at the time of operation which will make it possible for him to determine the degree of malignancy of the affection aside from the rapid course the disease has pursued up to the time of operation.

There is another class of cases which show their tenacity and the patient's susceptibility to carcinoma by repeated outbreaks in different parts of the body.

On June 19, 1895, I curetted the uterus of a woman forty years of age, and found carcinomatous disease of the fundus. Not until the next spring did she consent to hysterectomy. In May, 1898, she discovered a tumor in the depth of her right breast. Amputation of the gland was not permitted until September 18, 1898. The tumor, about $1\frac{1}{2}$ inches in diameter, did not involve the skin and was quite moveable. There were numerous glands to be felt in the axilla and after removal of the breast the pectoral muscles, sub-pectoral and axillary glands the patient apparently made a very good recovery. Glandular metastases discovered in the posterior triangle of her neck on the right side and in the axilla in January, 1900, were again removed. On June 7, 1900, there was a recurrent nodule in the scar tissue on the chest and this was cut out. She remained well until January, 1902, when there was another recurrence in the cicatrix and involvement of the supraclavicular glands of the opposite side of the neck. In removing them I followed the chain down until I found it to be continuous with the glands in the mediastinum. From this time on she suffered greatly from dyspnoea, laryngeal stridor and a racking cough. There was implication of the left recurrent laryngeal nerve. In December, 1902, orthopnea was marked. She died January 9, 1903, fully eight years after the first evidence of carcinomatous disease.

On March 10, 1897, I performed hysterectomy for carcinoma

of the uterus on a woman thirty-nine years of age, from which she made a very satisfactory recovery. September 23, 1899, she presented herself to me with a hard tumor in the lower outer quadrant of the left breast associated with enlarged axillary glands. The entire breast with its overlying skin, the axillary glands and the pectoralis major were removed. She had no recurrence of the carcinomatous disease either in the breast or pelvis but developed cancer of the stomach from which she died January 2, 1901.

In still another case I amputated the right breast in March, 1891, and without evidence of any local recurrence she returned to me in June, 1892, with a similar disease of the left breast. This was likewise amputated. In January, 1895, a spinal metastasis occurred and the patient gradually became paralyzed in both upper and lower extremities and died of the spinal recurrence December 21, 1895.

This group of cases in which carcinoma manifests itself in different organs of the body and in which the new outbreak of the disease occurs without return at the primary site indicates that in a certain class of cases we cannot lose sight of the personal equation, as evidently some individuals possess a pronounced susceptibility to cancerous disease.

That advanced age is not a matter of great import in determining the prognosis is evident in the following two cases:

The first was a woman eighty years of age, who had known of the presence of the tumor for two weeks. Radical operation was performed on June 30, 1904. The axillary space was thoroughly cleared out, the pectoralis major was removed, and in just two weeks' time she left the hospital, primary union having followed operation. She died one year later of conditions incident to her vascular condition and without recurrence of the cancer. The pathologist's report in this case was scirrhus carcinoma.

In the second case I operated upon a woman seventy-eight years of age who had been aware of the presence of the tumor but ten days. Here also there was well advanced atheromatous degeneration. She did not die until five years after operation, when her death was caused by apoplexy. At the time of operation

the patient was already suffering from cerebral changes incident to the vascular disease. She complained of tingling and numbness of her extremities and suffered from dizziness and aphasia. Ten months after operation there was a slight recurrence in the scar. This was treated by the application of a caustic paste which removed the diseased part. In the course of six weeks it had entirely healed. The patient had no subsequent recurrence.

This is the only instance in which I did not use the knife for the removal of the recurrent growth.

On the contrary, I embodied in a paper read before the Medical Society of the State of New York at its annual meeting in 1896 some statistics obtained from a gentleman whose wife was treated at a so-called cancer cure institution by means of caustic applications. Among those receiving the same treatment in this institution were fifteen patients with carcinoma of the breast. The end result of the treatment was obtained in each case. In no instance was there any benefit, but each and every one died of the cancerous affliction after months of torture.

I had occasion to operate upon a religious sister in May, 1890, for carcinoma of the breast of one year's duration during which period she had been treated by a self-styled cancer specialist with caustic plasters, only to produce a sloughing condition of the breast. A prompt recovery followed removal of the breast, the axillary contents and part of the pectoralis major. A letter received from her physician, Dr. Hancock of Jeffersonville, Indiana, April 22, 1907, *i.e.*, seventeen years later, reports her to be in good health with no recurrence of cancer.

There can be no doubt that the removal of recurrent growths may be followed by lasting cures.

A patient was operated upon by me August 24, 1896, for scirrhus of the right breast of some months' existence. There were marked glandular metastases in the axilla. Local recurrence in the scar tissue and neighboring glands appeared twenty-one months later. The recurrent growths were removed by

operation May 18, 1898, and since then the patient has had no return, has enjoyed perfect health, and has the full use of her arm.

Whether sex is a factor to be considered in the ultimate prognosis of malignant diseases of the breast I am unable to say. I have had but 3 cases of malignant tumor of the male breast, each of them recurring and in the end causing death.

I have been greatly disappointed in my efforts to obtain information in regard to many of the patients upon whom I have operated. Of 71 cases reported upon and which were operated more than three years ago, 35 are still living; 33 died of metastases and 3 within a year after operation of other diseases.

As has been stated, some of the most acute recurrences have been in cases of the scirrhus type.

In our pathologic studies some attention has been given to the investigations of the presence of mitotic figures to determine whether evidence of active cell division implied the probability of early recurrence. This has not been found to be the case. For example, in one specimen of scirrhus mitotic figures were found to be rare in the breast tumor, but numerous in the lymph nodes. There was evidence of spinal metastases eight months after operation, death occurring two months later. In another scirrhus carcinoma of a breast removed May 27, 1903, mitotic figures were very abundant, but the patient is at present in the full enjoyment of health, having never had the slightest recurrence.

During the past ten years I have employed the incision suggested by Dr. Halsted and have followed his technique except as to the removal of the supraclavicular glands in all cases. The latter step has only been undertaken when there has been apparent invasion of the neck. The axillary space has been thoroughly cleaned out, the pectoralis major and sometimes the pectoralis minor have been removed. After making the skin incision, the axillary space is first cleared and an attempt made to remove everything en masse. The great advantage of being able to see the field of operation clearly

at every step of the operation cannot be too highly appreciated.

For the past two years, when it has been possible to do so, the patients have been given weekly X-ray treatments for at least three months after their recovery from the operation.

During the decade preceding the last ten years I was guided by the principles enunciated by the late Samuel W. Gross in the paper presented to this association at its meeting in 1881. A circular incision was made around the breast and extended into the axilla. The axillary fat with the glands buried in its substance was removed, together with the upper layer of the pectoralis major. In cleaning the axilla by this method one had to depend largely upon the sense of touch, and hence there was always a degree of uncertainty as to whether all invaded structures were thoroughly removed. That this result was obtained in many instances, however, there can be no doubt.

In 1890 I operated upon 3 religious sisters, one in May, another in June and still another in November. In only one of these cases has there been a recurrence. This was in March, 1906, that is, sixteen years after the operation, when there appeared in the abdomen numerous nodules presumably involving the various abdominal viscera. They were hard and fixed. She died September 2, 1906. No autopsy was permitted.

This brings up the question of what we are to consider a cure. I think it must be conceded that the three-year limit usually put upon these cases is altogether too short to determine the end result. While in most instances a patient remaining entirely well for three years is quite apt not to suffer from further recurrence, the exceptions to this rule are by no means rare.

A woman operated upon by me December 19, 1888, when in her thirty-seventh year of age and in whom a scirrhus carcinoma of the breast had been present for about a year, showed no further signs of malignant disease until the spring of 1901. She died June 17, 1901, of malignant invasion of the liver, the

autopsy showing this organ to have been converted into a mass of malignant nodules of varying size from a pinhead to that of a large marble. All of the other organs seemed to be free from malignancy.

Withal, however, as we review the results of operative procedure undertaken for carcinoma of the breast, we can warrant the assertion that the present operative technique developed as it has been along the lines of pathologic research has fully verified our expectations and justifies the statement that except in the very acute cases a timely operation radically performed will completely remove the carcinomatous disease and prevent recurrence in the majority of cases.